

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (original): An image input apparatus comprising:

a micro-lens array having a plurality of micro-lenses; and

a light detecting element facing said micro-lens array;

wherein a single object image of a subject is obtained by rearranging image information of a plurality of object reduced images focused on a prescribed region on said light detecting element by said micro-lens array, and a relative position between said micro-lens and said prescribed region on said light detecting element, on which said object reduced images are focused as responding to each one of said micro-lenses, is arrayed differently for each of said micro-lens.

Claim 2 (original): An image input apparatus according to claim 1, wherein said relative position shifts sequentially at specified quantity in vertical and horizontal directions in an array of said micro-lenses.

Claim 3 (original): An image input apparatus according to claim 2, wherein said specified quantity is s/N .

$:(s)$ is a pitch of said light detecting element, and (N) is a number of said micro-lens units.

Claim 4 (original): An image input apparatus according to claim 1, wherein said relative position is formed adjustable according to a first rule based on a distance between said micro-lens and said subject.

Claim 5 (original): An image input apparatus according to claim 4, wherein said first rule is that said relative position shifts sequentially by $(s/N-D/m)$ in vertical and horizontal directions in said micro-lens array.

:(s) indicates a pitch of said light detecting element, (N) indicates a number of units of said micro-lens, (D) indicates a pitch of said micro-lens, and (m) indicates a magnification of said micro-lens for said subject. Also, (m) indicates a ratio $(b/a=m)$ of distance (b) between said micro-lens and said subject to a distance a between said micro-lens and said light detecting element.

Claim 6 (currently amended): An image input apparatus according to ~~any of~~ claim 1 ~~to claim 5~~, wherein, in process of obtaining a single object image by rearranging said image information of a plurality of object reduced images focused on said prescribed region on said light detecting element per said micro-lens, rearranged positions on said object image, to where said image information of said object reduced images are rearranged, are determined on the basis of said relative position.

Claim 7 (currently amended): An image input apparatus according to ~~any of~~ claim 1 ~~to claim 3~~, wherein, in process of obtaining a single object image by rearranging said image information of a plurality of object reduced images focused on said prescribed region on said light detecting element per said micro-lens, said rearranged positions on said object image, to where said image information of said object reduced images are rearranged, are determined according to a second rule on the basis of a distance between said micro-lens and said subject.

Claim 8 (original): An image input apparatus according to claim 7, wherein said second rule is that said relative position shifts sequentially by $(s/N-D/m)$ in vertical and horizontal directions in said micro-lens array.

:(s) indicates a pitch of said light detecting element, (N) indicates a number of units of said micro-lens, (D) indicates a pitch of said micro-lens, and (m) indicates a magnification of said micro-lens for said subject. Also, (m) indicates a ratio $(b/a=m)$ of distance (b) between said micro-lens and said subject to a distance a between said micro-lens and said light detecting element.

Claim 9 (currently amended): An image input apparatus according to ~~any of~~ claim 1 ~~to claim 8~~, wherein said light detecting element contains a plurality of light detecting cells, and said light detecting cells are divided into a plurality of regions to which color filters are disposed respectively.